Why either-sex seasons?

FACTSHEET

Many sportsmen have trouble understanding either-sex deer and elk hunting seasons. Obviously, letting hunters take female animals as well as males should double the total harvest, and it should double the number of successful hunters. But how can game managers expect to keep up that doubled harvest year after year without damaging the basic breeding population?

It all seems to fly in the face of common sense, but common sense has a poor record in matters of ecology. The fact is that the either-sex season has been proven a sound game management tool throughout the United States and in many other countries.

IN PERSPECTIVE

The experience of game biologists here in Washington is typical. In the 1930's many Washington deer herds overpopulated and over-browsed their ranges. The problem was a common one in western states. The U.S. Forest Service, which controlled much deer range, conducted studies in 1936 and 1937 to find a solution. Chelan National Forest -- now Okanogan National Forest in north-central Washington -- was among the areas that were studied.

Forest Service researchers concluded that many deer herds had simply grown beyond their ranges' capacity to support them. The researchers recommended that large game reserves be eliminated and that either-sex deer hunting seasons be opened. Washington's game biologists, who were doing their own studies, came to similar conclusions.

Meanwhile, farmers in both eastern and western Washington were complaining that deer were damaging their crops, and the first special either-sex seasons were tried as a means to control the damage. A 1943 law authorizing the state to pay cash for deer damage to crops gave the Game Department an added incentive to control deer populations, and either-sex seasons were soon tried in still more areas.

The results of these special damage seasons surprised many biologists. Either-sex hunting was only moderately effective in reducing crop damage -- it just wasn't trimming back the deer populations as well as they had expected. Each year, despite the liberal seasons, populations in most areas were at least as healthy and numerous as they had been in previous years. Game managers found they had to depend instead on the department's new deer fencing program to help reduce crop damage.

The classic example of a deer population's ability to "bounce back" from a good harvest took place on Whidbey Island after either-sex hunting was introduced to the island in 1937. Before that, the island had yielded harvests of a little over 100 bucks per year. But blacktails were severely damaging the island's strawberry crop, and the State Game Commission decided the only solution was to let the hunters eliminate the offending deer herd.

Whidbey provided an ideal test of either-sex seasons under what amounted to laboratory conditions. The island's deer were isolated from surrounding areas, so increases in the population could be attributed to the herd's own reproduction rate and not to migration from neighboring areas. Further, hunters leaving the island had to do so by way of the ferry terminal on the island's south end or by the Deception Pass bridge on the north, so biologists could get an accurate count of the harvested deer as they passed through these check points.

The result? During the first either-sex season there were no limitations on the number of hunters, and about 400 deer were harvested. The either-sex season was continued the next year with the hope that the remaining deer would be eliminated, and again over 400 deer were taken. The same basic season has been continued every year since then, yet hunters have kept on taking a large harvest year after year.

What happened on Whidbey Island is the rule, not the exception. Many deer populations that are subjected to either-sex seasons have better reproduction rates than do either unhunted populations or populations where only the bucks are hunted.

Carrying capacity

It all gets back to the old song-and-dance about carrying capacity. A deer range's capacity may be thought of as the number of animals it can support. This number is limited by available food, water, cover and other needs. Food is usually the most critical of these factors, and winter is usually the most critical season. A healthy deer population grows in number by about one-third when the fawns are born in the spring. The increased population finds plenty of food during the spring and summer, but in winter food is in short supply; malnutrition and disease thin the population, bringing it into line with the low winter carrying capacity.

It is important to remember that most winter-killed deer die of conditions associated with malnutrition, not starvation. Deer that die of malnutrition may die with full stomachs; poor food quality rather than a lack in quantity, is what kills them. Deer prefer to eat the most nutritious plant species available at any given time of the year. If their favorite forage plants are in short supply, they look to second-choice species for sustenance. In winter few plants contain much nutrition; the deer compete for forage while slowly dying of malnutrition. On the average, an un-hunted population loses as many deer during winter as were born the spring before.

Game managers try to let hunters harvest as many of these "surplus" deer as possible -- the number (not necessarily the same individuals) that would die during the winter had there been no hunting season. By reducing the population in the fall, hunting seasons ease competition for available forage and give the remaining deer a better chance to survive the winter.

Some hunters wonder why we don't just harvest bucks and leave the does to reproduce in the spring. This would make sense if the number of bucks harvested by hunters approached the number of surplus deer in a population. Removing bucks from a population eases competition in the deer herd for the winter food supply, and a bucks-only season is certainly better in this respect than no hunting at all. But experience shows that hunters cannot harvest more than about 10 per cent of a total population during a bucks-nly season. With an either-sex season he maximum harvest is more like 25 per ent. In many cases, even this is not enough to eliminate the surplus deer.

The importance of good range

An efficient harvest helps maintain good forage on the range. When a range becomes overpopulated, the deer may overbrowse the supply of nutritious forage plants, lowering the range's carrying capacity. If forage plants are too heavily browsed, their growth slows, which worsens the food shortage. Loss of this nutrition could hurt the deer's health, since malnutrition makes an animal more susceptible to disease and parasites. Poorly nourished deer are not only smaller and less vigorous than well-nourished ones, but they also have a lower reproductive rate. Herds kept below the "optimum" carrying capacity of their ranges through well-managed hunting seasons have a higher reproductive rate than herds at the "maximum " carrying capacity. (Optimum carrying capacity is the number of animals the range will support in good condition on a sustained basis; maximum carrying capacity is the largest number of animals the range can support at only a subsistence level. Of course, this means that the range can support fewer deer at optimum carrying capacity than it can at maximum carrying capacity.)

Keeping the range in good condition is more important to fawn production than maintaining an artifically high number of does. Studies have shown that a herd with 50 does on good range can produce as many fawns as a herd with 100 does on poor range. Healthy does are more likely to become pregnant, more likely to bear young successfully and more likely to have twins, than unhealthy does. This is why many populations that get heavy either-sex hunting pressure year after year actually thrive because of it.

The increased harvest that results from a well-managed either-sex season can help keep the range in good condition and so keep up the vigor of the deer population that lives on it. On the other hand, where a range is too heavily browsed, game managers may try to adjust the population to the range's lowered carrying capacity through liberal hunting seasons.

Unit management

Of course, not all deer populations can sustain either-sex hunting. Herds that have suffered heavy losses through malnutrition or disease may need a chance to rebuild themselves. So hunting must be tailored to suit local conditions. The need to direct hunting pressure to areas with prosperous herds and away from those that need to rebuild led game departments in most western states to devise the unit management system. They divided their deer ranges into areas or units, so they could vary seasons and regulations in different units, instead of setting statewide seasons.

During the first years of the unit system, the game department issued special either-sex hunting permits in eastern Washington only for areas where crop damage was a problem. But as the system proved its value game managers began to use it to try to keep deer populations at optimum carrying capacity in each unit. The optimum capacity of any unit may vary with weather or habitat changes, and the unit system lets game managers adjust hunting regulations accordingly.

Opposition to either-sex hunting

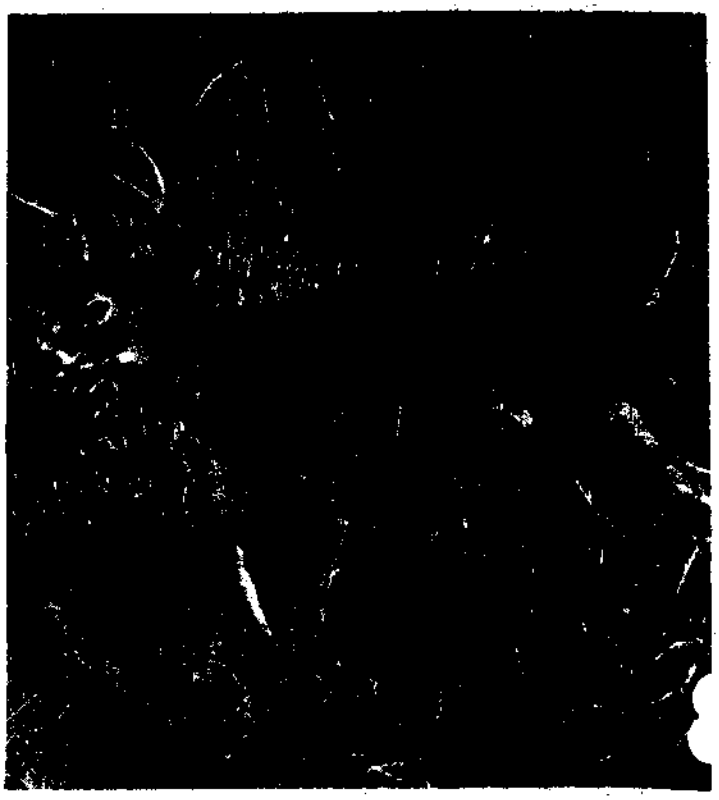
Despite widespread adoption of either-sex seasons, most states face some local opposition to hunting does. Some hunters oppose hunting female animals on moral grounds; for them this is a very personal value judgment that allows no room for discussion. Such opposition is rare in the few states that have always had either-sex seasons.

Opponents of either-sex seasons commonly claim that the game department is "trying to kill off all the deer." They fear that deer herds are shrinking because too many does are being killed to maintain the populations.

Obviously, the game department has little to gain by killing off all the deer. Claims that deer herds are shrinking because of either-sex seasons just don't hold water. Of course, these complaints can be very subjective. The unsuccessful hunter may fail to consider any of the possible reasons why he was unable to harvest a deer -- luck, competition from other hunters, weather or whatever. He may not care if it turns out to be a record harvest year; it only matters that he failed to bag a deer. So he blames the either-sex seasons.

In areas of the state where the deer population actually is shrinking, it is usually due to habitat loss, either through human activities or through natural processes. On the other hand, a deer population that is in balance with its habitat can only be increased by expanding or improving its habitat.

The fact is, either-sex seasons are a good game management tool. They permit annual harvests of up to 25 per cent of the herds, easing competition between the animals and easing pressure on the habitat. A good harvest of both sexes in a healthy, productive herd lets more of the remaining animals survive the winter. And, because the survivors are better nourished and less crowded, they produce more young the following spring. Carefully managed either-sex seasons can help maintain this high production rate year after year.



FOR THE CLASSROOM

We learn best what we learn for ourselves.

CHOOSE A ROLE --

The situation: The deer herd in your area has increased so much the deer are eating farm crops and home garden vegetables, and they are destroying their own habitat. Cars are hitting deer on the road almost every day.

The activity: Have the class decide who in the community would be interested in solving the problem -- farmers, nature lovers, merchants, home owners, hunters, wildlife managers (the state game department) and so on. Have each member choose a community interest they will represent. Give each interest group 30 minutes to decide on a course of action to deal with the problem, prepare a presentation and appoint a spokesman. Call the class back together and have each interest group present its solution. List the solutions on a large sheet of paper and ask for a hand vote on the best solution.

Follow up: Find out what wildlife-related problems occur in your "community": What solutions have been tried? How are these solutions similar to the solution your class selected above? How are they different? What values should be considered in developing wildlife management plans? Who should determine how wildlife should be managed?

I HAD A COW ... AND AN ACRE

"I had a cow, a good cow. I had an acre of land. It was a good acre.

My cow and my acre did right well by me. My cow was contented and I made quite a few dollars from the milk and butter.

It looked good. So I bought another cow. I was too pinched for money to buy nother acre.

My two cows made me a little more money than my one cow. So it seemed like it was smart to buy a third cow. I did. But the next year my three cows lost me money. They got skinny and wouldn't produce much milk. I was better off when I had one cow and one acre.

That wildlife fellow tells me deer work the same way as cows. Maybe he's got something." -- from the Missouri Conservationist.

As with livestock, deer and elk herds are a product of the forage grown on an area of land. Through livestock and deer, plant protein is converted to animal protein the human body can use. Wild herds use forage that domestic livestock normally doesn't use.

About 427 million pounds (carcass weight) of beef was consumed in Washington in 1976. the average carcass weight of a cow is about 600 pounds. How many cows were slaughtered to furnish beef to Washington residents? From the game harvest chart on the next page, determine how many deer and how many elk were harvested in 1976 in Washington. If the average carcass weight of deer is 125 pounds and of elk 375 pounds, how many pounds of wild meat was produced in 1976? (Convert these figures to metrics by figuring 2.2 pounds per kilogram).

HOW MANY DEER?

Winter deer counts in Washington show a ratio of one buck to three does and about one fawn per doe. If we have a herd of 700 deer this would be 100 bucks; 300 does; 300 fawns (150 females and 150 males). Calculate the size of the herd after five years: 1) with no hunting; 2) with buck hunting (about 9 percent of herd annually); 3) with either-sex hunting (70 does, 100 bucks per year). Using the figures for the 1976 statewide game harvest, figure out how many deer were left in the state after the hunting season.

If you owned a range that had a carrying capacity of 1,000 deer and were farming this 700-deer herd, how would you manage the herd to produce a maximum yearly harvest? (Hint: You would need at least one breeding male for each ten does).

Six members of the deer family live in Washington: Can you name them? (They are listed below). Where are they found in the state?

About one out of every ten persons in Washington hunts. Do you know someone who hunts? Talk to them to find out what they like about hunting. Find out how they think the recreation of hunting can be improved.

TO THE TEACHER:

The preceeding article about either-sex seasons can be used to teach these concepts:

1) Any area will support only so many animals of each species present.

2) Wildlife is a renewable resource.

3) The reproductive capacity of animals varies greatly, but normally they produce far more offspring than the habitat can support.

4) The death of some animals of a species enhances the survival of the rest of the population.

5) Part of the annual surplus produced by wildlife populations can be harvested for recreation and food.

SOME LEARNING OBJECTIVES:

1) Students will find alternative solutions to a wildlife problem and collectively choose the best solution.

2) Students will list five out of six members of the deer family found in Washington.

3) Students will calculate the pounds of deer and elk meat consumed in Washington and describe the relationship to beef consumption in terms of percentage.

4) Students will develop a herd management plan for 700 deer.

(white-tailed deer, black-tailed deer, mule deer, elk, moose, caribou)

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